FILE COPY

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
KNOXVILLE ENVIRONMENTAL FIELD OFFICE
3711 MIDDLEBROOK PIKE
KNOXVILLE, TENNESSEE 37921-6538
PHONE (865) 594-6035 STATEWIDE 1-888-891-8332 FAX (865) 594-6105

October 16, 2009

Mr. Gary Asher, President
Appolo Fuels, Inc.
P. O. Box 1727
Middlesboro, Kentucky 40965

RE: Transmittal of NPDES Permit
Appolo Fuels, Inc.
Horseshoe Mountain Surface Mine
NPDES Permit TN0072044
SMCRA Permit 3045
Claiborne County

Dear Mr. Asher:

In accordance with the provisions of *The Tennessee Water Quality Control Act (Tennessee Code Annotated, Sections 69-3-101 et seq.*) and regulations of the Tennessee Division of Water Pollution Control the enclosed permit is hereby issued. The continuance and/or reissuance of this permit are contingent upon your meeting the conditions and requirements as stated therein.

Please be advised that you have the right to appeal any of the provisions established in this permit in accordance with *Tennessee Code Annotated, Section 69-3-105(i)*, and the general regulations of the Tennessee Water Quality Control Board. If you elect to appeal, you should file a petition within thirty (30) days of the receipt of this permit. Such petition must be prepared on 8 1/2-inch by 11-inch paper, addressed to Paul E. Davis, Director, and filed in duplicate at the following address:

Paul E. Davis, Director
Division of Water Pollution Control
Department of Environment and Conservation
6th Floor, L & C Tower Annex
401 Church Street
Nashville, TN 37243-1534

In such petition, you must state your contention in numbered paragraphs describing how the action of the Division is inappropriate.

If you have any questions concerning this correspondence, contact Gary Mullins at (865) 594-5536.

Sincerely,

Paul E. Davis, Director
Division of Water Pollution Control

PED:MPS:GWM:MRR

Enclosure

cc: OSM
Mrs. Connie Kagey, U.S. EPA Region IV
NPDES Permit File

STATE OF TENNESSEE

NPDES PERMIT

NPDES Permit TN0072044
Renewal
SMCRA Permit 3045

Authorization to discharge under the
National Pollutant Discharge Elimination System

Issued By

Tennessee Department of Environment and Conservation
Division of Water Pollution
3711 Middlebrook Pike
Knoxville, Tennessee 37921-6538

Under authority of the *Tennessee Water Quality Control Act of 1977* (*T.C.A. 69-3-101 et seq.*) and the delegation of authority from the United States Environmental Protection Agency under the *Federal Water Pollution Control Act*, as amended by the *Clean Water Act of 1977* (*33 U.S.C. 1251, et seq.*)

Discharger: **Appolo Fuels, Inc.**
Horseshoe Mountain Surface Mine

is authorized to discharge treated wastewater and storm water:

from a facility located in **Claiborne County** at latitude **36°32′12″**, longitude **83°51′26″**

consisting of **114 acres**

to receiving waters named: **Unnamed Tributaries to Valley Creek - 002, 003**
Unnamed Tributary Straight Creek. - 004, 006
Spruce Lick Branch - 001

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on: **October 16, 2009**

This permit shall expire on: **October 15, 2014**

Transmittal date: **October 16, 2009**

Paul E. Davis, Director
Division of Water Pollution Control

CN-0759

Part I

A. Wastewater Limitations and Monitoring Requirements

(Surface Mine-Reclamation Area)

1. During the period beginning with the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge treated wastewater from all point sources associated with the reclaimed mining and related facilities indicated on the approved area maps. This permit covers mine wastewater discharges originating from gravity flow drainage and surface runoff from precipitation events.

   Such wastewater shall be limited and monitored by the permittee as specified below until the Phase III bond release is obtained.[1]

WASTEWATER LIMITATIONS

Outfalls 001, 002, 003, 004, 006

Wastewater Characteristics	Discharge Limitations Monthly Average	Discharge Limitations Maximum for any 1 Day	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Settleable Solids	N/A	0.5 ml/l	One per Quarter	Grab
Flow (GPM)	Report	Report	One per Quarter	Estimate
pH[2]	6.0 to 9.0 Standard Units at all times		One per Quarter	Grab

[1] The permittee may request permit termination when the SMCRA Phase III bond release is obtained. Appropriate documents including a letter of request and documentation of Phase III bond release must be submitted to the Division of Water Pollution Control, Mining Section. (Refer to Part III, Section B).

[2] When there is no discharge, monitoring of pH is to be made within the wastewater treatment structure. Sample results and place of monitoring should be noted on the Discharge Monitoring Report (DMR).

Note: To protect and maintain the classified use of the receiving stream for fish and aquatic life, the pH value shall not fluctuate more than 1.0 unit over a period of 24 hours and shall lie within the range of 6.0 to 9.0:

2. There shall be no distinctly visible floating scum, oil, or other matter contained in the wastewater either in the discharge or within the treatment structure. The wastewater discharge must not cause an objectionable color contrast in the receiving stream.

3. The wastewater discharge shall result in no other materials in concentrations sufficient to be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

4. Sludge or any other material removed by any treatment works shall be disposed of in a manner which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material shall be in compliance with the *Tennessee Solid Waste Disposal Act, TCA 68-211-101, et seq.* and the *Tennessee Hazardous Waste Management Act, TCA 68-212-101, et seq.*

ALTERNATE LIMITATIONS FOR PRECIPITATION EVENTS

Discharges occurring from wastewater treatment structures as a result of a precipitation event equal to or greater than ten year-twenty four hour (10yr/24hr) may meet the following alternate limitations.

Wastewater Characteristics	Discharge Limitations	Monitoring Requirements	
		Measurement Frequency	Sample Type
Flow (GPM)	Report	One per Quarter	Estimate
pH	6.0 to 9.0 Standard Units at all times	One per Quarter	Grab

5. The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event. This can be in the form of precipitation data, weir flow measurements, dated photographs, or equivalent proof of record. This information shall be submitted with the Discharge Monitoring Reports (DMR's) at the end of the monthly monitoring period.

6. Each time the precipitation exemption is utilized, two samples shall be taken. One sample shall be taken within twelve (12) hours following the precipitation event and prior to cessation of the discharge. A second sample shall be taken 24 to 36 hours following the precipitation event. Data from the precipitation event shall be submitted in lieu of data from the next scheduled sampling day of that month. Failure to submit the sampling information with the monthly Discharge Monitoring Reports (DMR's) will void use of the exemption for that period.

7. Gravity Discharges from Wastewater Treatment Systems and/or Facilities

   Representative samples shall be taken according to the following established sampling frequencies unless otherwise approved by the Division subsequent to a specific written request by the permittee:

   Samples shall be taken during a time of discharge on any one day of the quarter.

   For the purpose of this permit, a "quarter" is defined as any of the following three month periods: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.

B. Groundwater Monitoring Requirements

If required, groundwater monitoring shall be consistent with the monitoring requirements of the SMCRA plan that was approved by the Federal Office of Surface Mining (OSM).

C. Storm Water Reporting Levels and Monitoring Requirements

Storm water discharges associated with access and haul roads shall be monitored by the permittee as specified in the storm water management plan and as specified below until the site has been closed and stabilized according to plans approved by the Division. Additionally, conditions stipulated in Part III B., Termination of Monitoring, shall be met.

Note: *Part I C. entitled, "Storm Water Reporting Levels and Monitoring Requirements," is not applicable if all storm water discharges associated with access and haul roads are routed to and adequately treated by approved wastewater treatment structures. Sufficient documentation (i.e. narrative, drainage maps, etc.) of such treatment shall be provided to the Division before this exemption is valid.*

STORM WATER DISCHARGES

Parameters	Reporting Levels	Monitoring Requirements	
		Measurement Frequency	Sample Type
pH	5.0 to 9.0 Standard Units at all times	Annually	Grab
Total Suspended Solids	150 mg/L	Annually	Grab
Oil and Grease	15 mg/L	Annually	Grab

1. Samples shall be collected from discharges resulting from a storm event that is greater than 0.1 inch in magnitude and that occurs at least seventy-two (72) hours after any previous storm event of 0.1 inch or greater.

2. Grab samples shall be collected as soon as practicable during a storm event discharge.

3. In addition to the information contained in Part I, Section E (3), the monitoring report form shall include:

   a. The exact location from which the sample was taken, i.e., culvert, sump, etc.

   b. The duration (in hours), starting and ending times, and magnitude (in inches) of the storm event sampled.

D. Wastewater Treatment Facilities Construction Schedule

1. Full compliance and operational levels shall be attained from the effective date of this permit.

2. All pollution control equipment required to meet the conditions of this permit shall be installed, be in operational condition, and shall be "started-up" prior to discharge.

3. Prior to receiving drainage from disturbance of the permitted mine area, wastewater treatment structures and/or treatment facilities shall be constructed according to approved plans and certified after construction by a Tennessee Registered Professional Engineer or an authorized responsible representative of the company. Such certifications shall be submitted to and approved by the Division.

E. Reporting

1. Monitoring Results

Monitoring results shall be recorded on Discharge Monitoring Report (DMR) forms supplied by the Division of Water Pollution Control. Applicable reporting frequencies follow:

a. Wastewater Discharges

1) DMRs shall be recorded monthly and submitted quarterly.

The first DMR is due on **January 15, 2010.**

2) Each subsequent DMR shall be due no later than fifteen (15) days after completion of each quarterly reporting period.

3) DMRs shall be submitted for each outfall number listed on the permit. If a wastewater treatment structure(s) listed on the permit has not been constructed, this shall be noted on the DMR as "not constructed."

b. Storm Water Discharges

Monitoring results for storm water discharges shall be reported on Discharge Monitoring Report (DMR) forms. DMRs shall be recorded and submitted annually. The DMR is due no later than fifteen (15) days after completion of the quarterly reporting period in which the sample was taken.

DMRs shall be recorded and submitted annually. The first DMR is due no later than fifteen (15) days after completion of the quarterly reporting period in which the sample was taken.

c. Groundwater Monitoring Results

Monitoring results shall be recorded and submitted according to the monitoring frequency and schedule stipulated in the SMCRA permit issued by the Federal Office of Surface Mining (OSM).

2. Definition of "Quarter" for Reporting Purposes

   For the purpose of this permit, a "quarter" is defined as any of the following three-month periods: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.

3. Number of Copies of DMR Forms to Be Submitted

   Two (2) copies of each Discharge Monitoring Report (DMR) form are to be submitted to the Division of Water Pollution Control. The permittee should retain a copy for his file.

4. Signature Requirements for DMR Forms

   Discharge Monitoring Reports (DMRs) shall be signed and certified by a principal corporate officer of at least the level of vice-president, a general partner or proprietor, or his duly authorized representative. Such authorization shall be submitted in writing, signed by the permittee, and shall explain the duties and responsibilities of the authorized representative.

5. Address for Submittal of DMR Forms

   Discharge Monitoring Reports (DMRs) and any communication regarding compliance with the conditions of this permit shall be sent to:

   Tennessee Department of Environment and Conservation
   Division of Water Pollution Control
   3711 Middlebrook Pike, Suite 220
   Knoxville, TN 37921-6538
   ATTENTION: Mining Compliance

   Telephone (865) 594-6035 **Fax (865) 594-6015**

6. Additional Monitoring by Permittee

   If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required on the Discharge Monitoring Report (DMR). Such increased frequency shall also be indicated.

7. Falsifying Reports

   Knowingly making any false statement on any report required by this permit may result in the imposition of criminal penalties as provided for in *Section 309* of *The Federal Clean Water Act of 1977*, as amended, and in *Section 69-3-115(C)* of *The Tennessee Water Quality Control Act of 1977*, as amended.

F. Monitoring Procedures

1. Representative Sampling

   Samples and measurements taken in compliance with the monitoring requirements specified above shall be representative of the volume and nature of the monitored discharge and shall be taken at the following location(s): nearest accessible point after final treatment but prior to actual discharge(s) to or mixing with the receiving waters.

2. Test Procedures

   a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to *Section 304(h)* of *The Federal Clean Water Act of 1977*, as amended, under which such procedures may be required.

   b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in *Title 40, CFR, Part 136,* as amended, promulgated pursuant to *Section 304 (h)* of *The Federal Clean Water Act of 1977*, as amended.

3. Recording of Results

   For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

   a. The date, exact place, and time of sampling or measurements;

   b. The individual(s) who performed the sampling or measurements;

   c. The date(s) analyses were performed;

   d. The individual(s) who performed the analyses;

   e. The analytical techniques or methods used; and

   f. The results of such analyses.

4. Records Retention

   All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed and calibration and maintenance of instrumentation, shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Pollution Control, and be readily available to the Division's representative for review.

PART II

A. General Provisions

1. Duty to Reapply

   Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director the no later than 180 days prior to the expiration date.

2. Right of Entry

   The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials to:

   a. Enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and copy these records;

   b. Inspect any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit and;

   c. Sample any discharge of pollutants.

3. Availability of Reports

   Except for data determined to be confidential under *Section 308* of *The Federal Clean Water Act of 1977*, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the Division of Water Pollution Control. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

   a. Proper operation and maintenance shall be implemented at this site to control and minimize pollutants from entering the wastewater treatment structure(s). The permittee shall visually inspect the wastewater treatment structures(s) daily to ensure that no floating scum, oil, or other matter is contained in the wastewater discharge. The daily visual inspection requirement extends to BMPs or other treatment devices established to control storm water discharges associated with access roads and haul roads.

   b. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and

process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

c. Dilution water shall not be added to comply with effluent requirements.

5. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal right, nor any infringement of federal, state, or local laws or regulations.

6. Severability

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

7. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in a report to the Director, then he shall promptly submit such facts or information.

8. Best Management Practices (BMPs)

The permittee shall utilize Best Management Practices to prevent or minimize erosion and the contribution of suspended solids and sediment to surface waters and/or adjacent properties. Such practice(s) shall be implemented to reduce the impacts caused by disturbances created by the installation of culverts, the construction of haulroads, access roads, spoil storage, and stockpile areas, and other related activities.

Best Management Practices (BMPs) include, but are not limited to, rapid grading, mulching, and revegetation of disturbed areas, straw bales, sediment traps and swells, vegetative buffer zones, erosion control structures, and rock check dams. BMPs are used in conjunction with effluent limitation guidelines as supplemental or auxillary erosion control measures and are not to be considered as substitutes for monitoring requirements of point source discharges.

Additional information regarding acceptable practices may be found in the Additional information regarding acceptable practices may be found in the **Tennessee Erosion and Sediment Control Handbook, March 2002**, which is available from the Division.

Tennessee Erosion and Sediment Control Handbook, July 1992, which is available from the Division.

B. Changes Affecting the Permit

1. Planned Changes

   The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in *40 CFR 122.29(b)*; or

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to requirements under *40 CFR 122.42 (a) (1)*.

2. Permit Modification, Revocation, or Termination

   a. This permit may be modified, revoked and reissued, or terminated for cause as described in *40 CFR 122.62* and *122.64*, *Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984)*.

   b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

   c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under *Section 307(a)* of *The Federal Clean Water Act of 1977*, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

3. Transfer of Ownership

   Individual permits are not transferable to any person except after notice to the commissioner, as specified below.

   a. The permittee notifies the Commissioner of the proposed transfer at least thirty (30) days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittee containing a specified date for transfer of the permit responsibility, coverage, and liability between them;

c. The permittee must provide the following information to the commissioner in their formal notice of intent to transfer ownership:

(1) The permit number of the subject permit;
(2) The effective date of the proposed transfer;
(3) The name and address of the transferor;
(4) The name and address of the transferee;
(5) The names of the responsible parties for both the transferor and transferee;
(6) A statement that the transferee assumes responsibility for the subject permit;
(7) A statement that the transferor relinquishes responsibility for the subject permit;
(8) The signatures of the responsible parties for both the transferor and transferee pursuant to the signatory requirements of this part; and
(9) A statement regarding any proposed modifications to the facility, its operations, or any other changes, which might affect the permit, limits and conditions contained in the permit.

d. The Commissioner, within thirty (30) days, does not notify the existing permittee and the proposed new permittee of his intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

NOTE: To expedite and facilitate the permit transfer process and provide the required information, the Division has prepared two documents, "Notice of Transfer: National Pollutant Discharge Elimination System Permit" and "NPDES Permit Application Addresses Transfer of Ownership." These documents may be obtained by contacting the Division at telephone number **(865) 594-5619**.

3. Change of Ownership

This permit may be transferred to another person by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least thirty (30) days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittee containing a specified date for transfer of the permit and liability between them;

c. The Director, within thirty (30) days, does not notify the current permittee and the new permittee of his intent to modify, revoke and reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Note: To expedite and facilitate the permit transfer process, the Division has prepared a document entitled "Notice of Transfer: National Pollutant Discharge Elimination System Permit." This document may be obtained by contacting the Division at telephone number **(865) 594-5619**.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice, the original address of the permittee will be assumed to be correct.

C. Non-Compliance

1. Effect of Non-Compliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit non-compliance constitutes a violation of applicable state and federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Non-Compliance

a. 24-Hour Reporting

In the case of any non-compliance which could cause a threat to the public drinking water supplies, or any other discharge which could constitute a threat to human health or the environment, a required notice of non-compliance shall be provided to the Division of Water Pollution Control within twenty-four (24) hours from the time the permittee becomes aware of the circumstances.

Telephone No. (865) 594-6035 **Fax No. (865) 594-6105**

Additionally, written submission shall be provided within five (5) days of the time the permittee becomes aware of the circumstances unless the Director on a case-by-case basis waives this requirement. The permittee shall provide the Director with the following information:

(1) A description of the discharge and cause of non-compliance;

(2) The period of non-compliance, including exact dates and times, or, if not corrected, the anticipated time non-compliance is expected to continue; and

(3) The steps being taken to monitor, reduce, eliminate, and prevent recurrence of the non-complying discharge.

This written notice shall not be considered as excusing or justifying the failure to comply with the effluent limitations. This non-compliance shall also be reported

on the Discharge Monitoring Report (DMR). The details may be incorporated by reference to the written five (5) day notification.

b. Scheduled Reporting

For instances of non-compliance which are not reported under subparagraph 2(a) above, the permittee shall report the non-compliance on the Discharge Monitoring Report (DMR). The report shall contain all information concerning the steps taken, or planned, to monitor, reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Bypassing

a. "Bypass" means the intentional diversion of wastes from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which could cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless the following three (3) conditions are met:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submits notice of an unanticipated bypass to the Division of Water Pollution Control within twenty-four (24) hours of becoming aware of the bypass (if this information is provided orally, a written submission shall be provided within five (5) days). When the need for the bypass is foreseeable, prior notification shall be submitted for approval to the Director, if possible, at least ten (10) days before the date of the bypass.

c. The Director may prohibit bypass in consideration of the adverse effect of the proposed bypass or if the proposed bypass does not meet the conditions set forth in subparagraphs 3(b)(1) and (2).

d. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of subparagraph b. above.

4. Upset

   a. "Upset" means an exceptional incident in which there is unintentional and temporary non-compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include non-compliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

   b. Conditions necessary for the demonstration of an upset. An upset shall constitute an affirmative defense to an action brought for non-compliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

      (1) An upset occurred and that the permittee can identify the cause(s) of the upset;

      (2) At the time the permitted facility was being operated in a prudent and workman like manner and in compliance with proper operation and maintenance procedures;

      (3) The permittee submitted information required under "Reporting of Non-Compliance" within twenty-four (24) hours of becoming aware of the upset (if this information is provided orally, a written submission shall be provided within five (5) days); and

      (4) The permittee complied with any remedial measures required under "Adverse Impact."

   c. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from non-compliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge. In an enforcement action, it shall not be a defense for the permittee that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Liabilities

1. Civil and Criminal Liability

Except as provided in permit conditions for "Bypassing," nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for non-compliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the state of Tennessee including, but not limited to, fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to

any surface or subsurface waters. Additionally, notwithstanding this permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability under State Law

   Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or *The Federal Clean Water Act of 1977*, as amended.

3. Liability to Obtain Required Permits

   It is a violation of this permit to fail to obtain a permit or permit coverage for any activity that requires a permit under *The* Tennessee *Water Quality Control Act of 1977.*

PART III

A. General Requirements

1. Prior to the creation of any disturbed area or point source discharge within the projected area of operation, and prior to changes, corrections, modifications, or adjustments in the location of any point source discharge, an Engineering Plan shall be submitted to and approved by the Division of Water Pollution Control.

2. No mining activity shall be conducted within the projected area of operation unless the detailed Engineering Plan for the specific area of operation or disturbance has been approved in advance. The Engineering Plan shall include those documents, maps, drawings, and other materials as required by the Division.

B. Termination of Monitoring

Monitoring of a discharge may be terminated when all of the following have been satisfactorily completed:

1. Sufficient data has been accumulated to show to the satisfaction of the Director that the untreated discharge from an area where mining is completed shall meet limitations established by the Division as stated herein [Part I, A (1), Page 1]. Other factors such as watershed or background characteristics may be taken into consideration if sufficient data and documentation are provided to the Division by the permittee.

2. The permittee or his duly authorized representative submits proof of final bond release and a letter to the Division of Water Pollution Control requesting permit termination.

3. The discharge emanates from an area on which the SMCRA Regulatory Authority has fully released the reclamation bond or has taken similar action. Proof of final bond release or similar action taken must be furnished.

4. After a thirty day (30) public notice, there is no adverse public comment to uphold termination.

C. Examples of Discharges Covered by this Permit

Examples of discharges which are covered by *The Federal Clean Water Act of 1977*, as amended, and this permit include, but are not limited to, the following:

1. Pumped or gravity drainage from the permitted area including, but not limited to, the mine, overburden storage and stockpile areas; and other adjacent areas which are associated with or incidental to the extraction of a natural resource or related activities.

2. Discharges from sediment control structures and/or treatment facilities.

D. Duration and Reissuance of Permits *(Rule 1200-4-1-.05 [5] [c])*

The Commissioner or his duly authorized representative (i.e. State Director) shall review the permit and other available information to insure:

1. That the permittee is in compliance with or has substantially complied with all terms, conditions, requirements, and schedules of compliance of the expired permit;

2. That the Commissioner has up-to-date information on the permittee's production levels, permittee's waste treatment practices, nature, contents, and frequency of permittee's discharge, either pursuant to monitoring records and reports submitted to the Commissioner by the permittee; and,

3. That the discharge is consistent with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements including any additions to, or revisions or modifications of such effluent standards and limitations, water quality standards, or other legally applicable requirements during the term of the permit.

E. Reopener Clause for Permits Issued to Sources in Primary Industries

If an applicable standard or limitation is promulgated under the *Clean Water Act*, as amended, *Sections 301 (b)(2) (C) and (D), 304 (B)(2), and 307(a)(2)* and that effluent standard or limitation is different from an effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation(s).

F. Toxic Pollutants

The permittee shall notify the Division of Water Pollution Control as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant (listed in *40 CFR, Part 122, Appendix D, Table II and III*) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. One hundred micrograms per liter (100 µg/L);

   b. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

   c. Five (5) times the maximum concentration value reported for that pollutant in the permit application; in accordance with *122.21(g)(7)*; or

   d. The level established by the Director in accordance with *122.44(f)*.

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   a. Five hundred micrograms per liter (500 µg/L);

   b. One milligram per liter (1 mg/L) for antimony;

   c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with *122.21(g)(7)*; or

   d. The level established by the Director in accordance with *122.44(f)*.

3. They have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application under *122.21(g)(9)*.

G. Definitions

1. *"Access Road/Haul Road"* is any road constructed, maintained, or used by the operator of a mining facility primarily for the purpose of transporting raw materials, equipment, manufactured products, waste material, or by-products, and is located within the affected area.

2. "*Batch discharge*" for the purpose of this permit means the controlled release through a pipe (valve) of a known quantity and quality of treated wastewater that has been pumped to a treatment system after such water has been physically and/or chemically treated to meet permit limits.

3. *"Best Management Practices (BMPs)"* means a practice or a combination or series of practices designed to prevent or minimize the amount of pollution generated by non

point sources, such as haulroads, access roads, spoil storage and stockpile areas, site preparation, installation of culverts, and other related activities.

4. *"Bypass"* means the intentional diversion of wastes from any portion of a treatment facility.

5. *"Calendar Day"* is defined as any 24-hour period.

6. *"Clean Water Act" or "Act"* means the *Federal Clean Water Act of 1977* (formerly referred to as *The Federal Water Pollution Control Act* or *The Federal Water Pollution Control Act* Amendments of 1972), as amended.

7. *"Coal Preparation Plant"* means a facility where coal is subjected to cleaning, concentrating, or other processing or preparation in order to separate coal from its impurities and then is loaded for transit to a consuming facility.

8. *"Coal Preparation Plant Associated Areas"* means the coal preparation plant yards, immediate access roads, coal refuse piles and coal storage piles and facilities.

9. *"Commissioner"* means the Commissioner of the Tennessee Department of Environment and Conservation or the Commissioner's duly authorized representative.

10. *"Composite sample"* means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24 hour period. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

11. *"Controlled surface mine drainage"* means any surface mine drainage that is pumped or siphoned from the active mining area.

12. *"Daily Maximum Concentration"* is a limitation on the average concentrations in milligrams per liter, of the discharge during any calendar day.

    (a) When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite.

    (b) When other sampling means are used, the daily concentration is the arithmetic mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

13. *"Director"* means the Regional Administrator or the State Director, as the context requires or an authorized representative.

14. *"Discharge of a Pollutant"* means: "(a) Any addition of any 'pollutant' or combination of pollutants to 'waters of the United States' from any 'point source,' or (b) ... This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man..."(see *40 CFR 122.2*)

15. *"Division"* means the Division of Water Pollution Control.

16. *"Grab Sample"* means an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding fifteen (15) minutes.

17. *"Industrial Waste"* means any liquid, solid, gaseous substance, or combination thereof, or form of energy including heat, resulting from any process of industry, manufacture, trade, or business or from the development of any natural resource.

18. "Maximum for any 1 day" means a limitation of the total concentration by volume in milliliters per liter (ml/l) or concentration by weight in milligrams per liter (mg/l) of any pollutant in the discharge during any time of a calendar day.

19. *"Mine"* shall mean an area of land, surface or underground, actively mined for the production of a natural resource. Such areas shall also include any adjacent land, the uses of which is incidental to any such activities; all lands affected by the construction of new roads or the improvement or use of existing roads, except maintained public roads, to gain access to the site of such activities and for haulage; excavations, workings, impoundments, dams, dumps, stockpiles, overburden piles, holes or depressions, repair areas, storage areas, and other areas upon which are sited structures, or other property or materials on the surface, resulting from or incidental to such activities.

20. *"Monthly Average Concentration"* is a limitation on the discharge concentration in milligrams per liter, as the arithmetic mean of all daily concentrations determined in a one-month period.

21. *"National Pollutant Discharge Elimination System (NPDES)"* means the Federal Environmental Protection Agency's (EPA) national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing water quality permits. The term includes an "approved state program."

22. *"Pollutant"* for the purpose of this permit means industrial waste.

23. *"Regional Administrator"* means the Administrator for the Environmental Protection Agency or his authorized representative.

24. *"Storm Water Discharges Associated with Access Roads and Haul Roads"* means the discharge from any conveyance which is used for collecting and conveying storm water from immediate access roads and haulroads. This term does not apply to discharges from public roads or discharges routed to and adequately treated by approved wastewater treatment structures.

25. *"Tennessee Water Quality Control Act of 1977,"* as amended, *TCA 69-3-101* et seq., is the act that sets forth the guidelines and procedures for the abatement and prevention of pollution to the waters of the state. The act enables the state of Tennessee to qualify for full participation in the NPDES permit program.

26. The term *"10 year, 24 hour precipitation event"* means the maximum 24-hour precipitation event with a probable recurrence interval of once in ten (10) years as defined by the National Weather Service and Technical Paper No. 40, "Rainfall Frequency Atlas of the U.S.," May 1961, and subsequent amendments or equivalent regional or rainfall probability information developed therefrom.

27. The terms *"treatment facility"* and *"treatment system"* mean all structures which contain, convey, and as necessary, chemically or physically treat coal mine drainage, coal preparation plant process wastewater, or drainage from coal preparation plant associated areas, which remove pollutants regulated by the Division from such waters. This includes all pipes, channels, ponds, basins, tanks, and all other equipment serving such structures.

28. *"Upset"* means an exceptional incident in which there is unintentional and temporary non–compliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include non–compliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

29. *"Waters"* means any and all water, public and private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters. The term "waters" also includes tributary streams, drainways, and conveyances that enter or drain into any and all water, public or private, on or beneath surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownerships which do not combine or effect a junction with natural surface or underground waters.

H. Antidegradation Statement

Pursuant to the *Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06*, titled "Tennessee Antidegradation Statement," and in consideration of the Department's directive in attaining the greatest degree of effluent reduction achievable in municipal, industrial, and other wastes, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or other state or federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

RATIONALE

Coal Reclamation Area

APPOLO FUELS, INC.
NPDES Permit TN0072044
SMCRA Permit 3045
Clairfield, Claiborne County, Tennessee

Permit Writer: Micheal R. Robbins

October 16, 2009

I. DISCHARGER

Appolo Fuels, Inc.
P. O. Box 1727
Middlesboro, KY, 40965

Contact: Mr. Gary Asher, President

Facility Address: Valley Creek Road, Clairfield, Tennessee

Nature of Business: Reclamation Area

SIC Code: 1221

Industrial Classification: Primary

Discharger Rating: Minor

II. PERMIT STATUS

NPDES Permit TN0072044 issued October 16, 2009

NPDES Permit TN0072044 expires October 15, 2014

Complete Application for Permit Renewal Received April 18, 2014

III. FACILITY DISCHARGES AND RECEIVING WATERS

This facility discharges treated wastewater and storm water from Outfalls 002 and 003 into unnamed tributaries to Valley Creek, Outfall 001 into Spruce Lick Branch, and Outfalls 004 and 006 into an unnamed tributary to Straight Creek in Claiborne County, Tennessee. The classified uses for these streams are fish and aquatic life, livestock watering and wildlife, recreation, and irrigation. See *Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-4.*

IV. APPLICATION TYPE AND BACKGROUND INFORMATION

This facility presently holds an NPDES permit authorizing treated wastewater and storm water discharges from an active surface coal mine. The operator has submitted an application requesting that the existing NPDES permit be renewed as a reclaimed surface coal mine. The facility received a Phase I bond release from the Office of Surface Mining on April 20, 2004. All of the treatment ponds were removed by November 18, 2008. The permittee must monitor at a point source at each of the removed treatment pond locations until Phase III bond release.

V. REASONABLE POTENTIAL ANALYSIS OF TOXIC METALS, CYANIDE, AND TOTAL PHENOLS

EPA Form 2C, Item V, Part C, and *40 CFR §122.21(g)(7)* require permittees of coal mining facilities to submit analysis of their effluent for an extended list of parameters at least once during a permit cycle. Parameters having detectable concentrations must undergo a Reasonable Potential Analysis (RPA) to consider whether discharges from the facility could cause a violation of the General Water Quality Criteria. If the RPA indicates that comparable test results are less than any applicable water quality criteria, a violation of the criteria for that parameter should not occur. If the RPA indicates that a discharge has the reasonable potential to cause or contribute to an in-stream excursion of a water quality criterion, then the permit must contain effluent limits for that pollutant. See *40 CFR §122.44(d).*

The permittee has submitted the required wastewater analyses for samples collected from Outfalls 001, 002, 003, and 004. Detectable concentrations of total copper (Cu), total mercury (Hg), total nickel (Ni), total selenium (Se), and total zinc (Zn) were reported for these samples. The reasonable potential analysis (RPA) indicates that an exceedence of the criteria should not occur for the detected parameters. See Water Quality Based Effluent Calculations attached.

VI. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

Effluent limitations applicable to these wastewater discharges are described in *40 CFR 434.55 SubPart E* New **Source Performance Standards (NSPS)** include provisions applicable to discharges from a reclamation area.

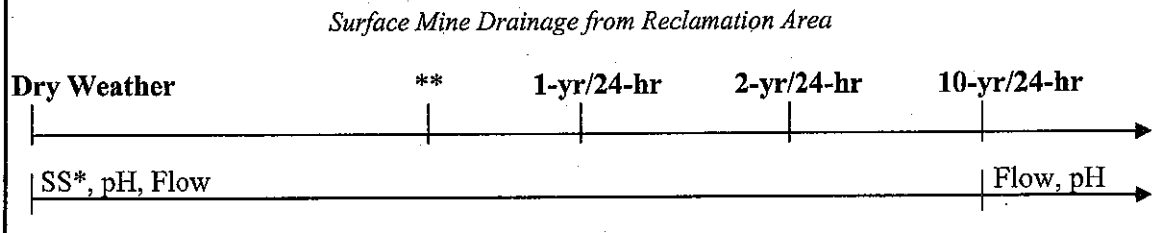
NSPS Effluent Limitations

Pollutant or pollutant property	Maximum for Any 1 Day
Settleable Solids	0.5 ml/l
pH	6.0-9.0 standard units at all times

VII. ALTERNATE EFFLUENT LIMITATIONS FOR PRECIPITATION EVENTS

Discharges from wastewater treatment systems resulting from precipitation events are eligible for alternate monitoring requirements. These requirements are described in *40 CFR 434.63* and in *Appendix A of 40 CFR Part 434.*

Alternate Monitoring Requirements For Precipitation Events



* SS-Settleable Solids.
**Discharge caused by precipitation

VIII. PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

This industrial site is presently permitted for discharges of wastewater for an active surface coal mine under NPDES Permit TN0072044.

Previous Wastewater Limitations

Wastewater Characteristics	Discharge Limitations Monthly Average	Discharge Limitations Maximum for any 1 Day	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Iron, Total	3.0 mg/l	6.0 mg/l	Two per Month	Grab
Manganese, Total	2.0 mg/l	4.0 mg/l	Two per Month	Grab
Total Suspended Solids	35.0 mg/l	70.0 mg/l	Two per Month	Grab
Settleable Solids	N/A	0.5 ml/l	Two per Month	Grab
Flow (GPM)	Report	Report	Two per Month	Estimate
pH[2]	6.5 to 9.0 Standard Units at all times		Two per Month	Grab

IX. NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

New Wastewater Limitations

Wastewater Characteristics	Discharge Limitations Monthly Average	Discharge Limitations Maximum for any 1 Day	Monitoring Requirements Measurement Frequency	Monitoring Requirements Sample Type
Settleable Solids	N/A	0.5 ml/l	One per Quarter	Grab
Flow (GPM)*	Report	Report	One per Quarter	Estimate
pH**	6.0 to 9.0 Standard Units at all times		One per Quarter	Grab

*Flow measurements are used to determine the volume or quantity of wastewater that is discharged from each outfall. See *40 CFR 122.* Measurement of flow volume provides operating and performance data on the wastewater treatment system, helps in evaluating impacts on the receiving stream, and provides data to determine long term trends in treatment capacity and effectiveness.

EPA studies and other research data indicate that the 0.5 ml/l limit for Settleable Solids (SS) is achievable and is an effective and appropriate measure of sediment control both for active mines during precipitation events and for reclamation areas. See *EPA "Development Document for Final Effluent Limitations Guidelines and New Source Performance Standards for the Coal Mining Point Source Category" Effluent Guidelines Division, Office of Water, U. S. Environmental Protection Agency, EPA 440/1-82/057, Washington D. C., October, 1982.*

** **NOTE**: *Rules of Tennessee Department of Environment and Conservation,* Chapter *1200-4-3-.03, General Water Quality Criteria* establishes criteria for uses of state waters. To protect and maintain the classified use of the receiving stream for fish and aquatic life, the pH value shall not fluctuate more than 1.0 unit over a period of 24 hours and shall not be outside the following ranges: 6.0 – 9.0 in wadeable streams and 6.5 – 9.0 in larger rivers, lakes, reservoirs, and wetlands.

X. MONITORING, INSPECTION, AND COMPLIANCE INFORMATION

Division personnel reviewed the facility's NPDES and Discharge Monitoring Report (DMR) files to determine compliance with permit conditions and effluent limitations. The Division has issued two Notices of Violation (NOV's) to the permittee concerning this facility.

The Office of Surface Mining issued a notice of violation (NOV) on March 9, 2006. The NOV concerned the failure to control and properly treat all of the drainage from the facility. OSM issued a Cessation Order March 23, 2006 concerning the March 9th notice of violation.

The Division has reviewed the facility's NPDES and Discharge Monitoring Report (DMR) files from the third quarter of 2005 until the present to determine compliance with permit conditions and effluent limitations. DMR's received by the Division reported no effluent limitation violations during the current permit period through the third quarter of 2008.

XI. STORM WATER DISCHARGES

Access Roads and Haul Roads and Other Areas or Sources for Stormwater

Limitations on Coverage

These provisions only apply if stormwater runoff is not directed and/or controlled by existing or proposed (i.e. new and modified applications) treatment structures/systems for mine wastewater/process water. Sufficient documentation (i.e. e., application plans, maps, addendums, etc.) of such treatment must be provided to the Division before the exemption is valid. Stormwater is defined as stormwater runoff, snow melt runoff, and surface runoff and drainage. *40 CFR 122.26.*

Background

In the *Water Quality Control Act of 1987*, Congress established controls on stormwater discharges and authorized EPA to promulgate NPDES permit application rules for storm-water discharges associated with industrial activities. These rules cover active and inactive mining operations within the meaning of stormwater discharges associated with industrial activities. *40 CFR 122.26.*

The definition of stormwater discharges associated with industrial activities also covers access roads and haul roads. These areas are likely sources for pollutants associated with raw materials, intermediate products, and finished products that are transported to and from the facility. These roads will also be sources for pollutants such as oil and grease from vehicles and machinery using these roads. *55 FR 48065, November 16, 1990.* These provisions also cover other areas or sources on the NPDES permit boundary that include discharges composed entirely of stormwater. *40 CFR 122.26.*

In accordance with EPA and state regulations, the Division has added these provisions to the NPDES to cover monitoring and reporting requirements for stormwater discharges associated with access roads and haul roads and other areas or sources on the permit that include discharges composed entirely of stormwater. These requirements are as follows:

Parameter	Reporting Level	Monitoring Requirements	
		Measurement Frequency	Sample Type
Total Suspended Solids	150 mg/L*	Annually	Grab
Oil & Grease	15 mg/L	Annually	Grab
pH	5.0 to 9.0 Standard Units	Annually	Grab

** If the stormwater discharge is from an area not associated with an access road and haul road or is not a source for vehicular traffic monitoring for Oil and Grease is not required.*

The permittee shall monitor at least once a year the designated stormwater outfalls (or demonstrated representative outfalls) associated with access roads and haul roads and/or any other area requiring stormwater coverage. The sample shall be collected during any period (quarter) of the calendar year, as long as the samples are representative of the quantity and quality of the stormwater runoff being discharged from the facility. The once per year monitoring requirement is based on *40 CFR 122.44, TNR050000, Sector AD, 5.1.1* and Best Professional Judgment (BPJ) of the Division.

Sources for the parameter reporting levels for stormwater discharges include *Sector AD of the Tennessee Storm Water Multi-Sector General Permit (TMSP), TNR050000* and Best Professional Judgment (BPJ) of the Division. The *TMSP* was reissued on May 15, 2009, and became effective on June 1, 2009. Sector AD includes reporting levels for pH, Oil and Grease, and Total Suspended Solids, the pollutants of primary concern relating to mine access roads and mine haul roads.

Total Suspended Solids (TSS) reporting level is based on Best Professional Judgment (BPJ) after evaluating available monitoring data. The importance of the TSS reporting parameter is expressed as follows: "TSS is a reasonable screen or indicator of storm water discharge quality since many storm water pollutants are themselves suspended solids, or enter receiving waters attached to solids." *TMSP TNR050000, Rationale, page R-15*

NOTE: The stormwater provision does not apply to discharges (and associated mine drainage) from coal mining facilities subject to the effluent limitations guidelines contained in *40 CFR 434*. Discharges of stormwater that combine with mine drainage regulated under *40 CFR 434* must comply with the applicable effluent guidelines. The Division may apply the EPA guidelines to drainage from access roads and haul roads that are constructed of mine waste materials and/or where mine wastewater (if the wastewater is regulated under *40 CFR 434*) is used for dust suppression. This determination shall be made on a case-by-case basis.

XII. MONITORING REQUIREMENTS FOR WASTEWATER DISCHARGES

EPA regulations require that monitoring and sampling frequencies be sufficient to yield data that are representative of the monitored activity including, if appropriate, continuous monitoring. See *40 CFR 122.48*. The monitoring frequencies established in this permit are based on Best Professional Judgement (BPJ) of the Division. We believe these monitoring frequency levels are protective of water quality and will provide sufficiently representative data of the monitored activity.

The nature and effect of the discharge and its impact on the receiving waters will be the basis for any change or modification in monitoring frequency. Impacts on the receiving waters will include any impairment of the stream use classifications. The *Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3, Criteria for Water Uses (3) Fish and Aquatic Life* specify these classified uses.

XIII. STATE OF TENNESSEE ANTIDEGRADATION POLICY

Tennessee's Antidegradation Statement is found in *Chapter 1200-4-3-.06* of the *Rules of the Department of Environment and Conservation*. The primary purpose of the antidegradation policy is to establish a greater level of protection for those waters that are identified to be of high quality.

Generally, there are two types of high quality waters. Outstanding National Resource Waters (ONRW's) are specifically designated by the Water Quality Control Board and are afforded the greatest level of protection. No new discharges or expansion of existing discharges are allowed that will result in measurable degradation of the existing water quality. See *1200-4-3-.06 (5)*. Other high quality waters are identified by the Department as Exceptional Tennessee Waters and are also protected against degradation. Some degradation may be allowed only if the Water Quality Control Board deems it economically and socially necessary. See *1200-4-3-.06 (4)*.

"Available conditions" occur where water quality is better than the applicable criterion for a specific parameter. In available conditions, new or additional degradation for that parameter will only be allowed if the applicant has demonstrated to the department that reasonable alternatives to degradation are not feasible. See *1200-4-3-.06 (3)*.

"Unavailable conditions" exist where water quality is at, or fails to meet, the criterion for one or more parameters. In unavailable conditions, new or increased discharges of a substance that would cause or contribute to impairment will not be allowed. See *1200-4-3-.06 (2)*.

This reclamation permit application reflects no change in the character of the wastewater discharge at Outfalls 001, 002, 003, 004, and 006.

- Outfall 001 discharges to a wet weather conveyance to Spruce Lick Branch in Claiborne County, Tennessee. Spruce Lick Branch is **not** identified or designated as Exceptional Tennessee Waters according to "The Known Exceptional Tennessee Waters July 21, 2008". Spruce Lick Branch is **not** listed as impaired in the "EPA Approved Final Version Year June 2008 303(d) List".

- Outfalls 002 and 003 discharge to wet weather conveyances to unnamed tributaries to Valley Creek to the Clear Fork of the Cumberland in Claiborne County, Tennessee. The two mile reach of Valley Creek, downstream of these outfalls, is **not** identified or designated as Exceptional Tennessee Waters according to "The Known Exceptional Tennessee Waters July 21, 2008". Valley Creek is **not** listed as impaired in the "EPA Approved Final Version Year June 2008 303(d) List." Outfalls 004 and 006 are located at the upper headwaters of Valley Creek at stream mile 4.0 and are a part of Subwatershed 0601.

- Outfalls 004 and 006 discharge to wet weather conveyances to an unnamed tributary to Straight Creek to the Clear Fork of the Cumberland in Claiborne County, Tennessee. Straight Creek **is** identified and designated as Exceptional Tennessee Waters according to "The Known Exceptional Tennessee Waters July 21, 2008." Outfalls 004 and 006 are located at the upper headwaters of Straight Creek at stream mile 5.8, and are a apart of Subwatershed 0601. The reach of Straight Creek, stream mile from 0.0 to 1.4, is listed as impaired in the "EPA Approved Final Version Year June 2008 303(d) List".

Four of the facility outfalls discharge treated wastewater and storm water to Straight Creek and Valley Creek. These streams are located in the Clear Fork of the Cumberland River watershed, USGS Hydrologic Unit Code 05130101. The Environmental Protection Agency approved the Division TMDL for the Clear Fork of the Cumberland watershed on February 26, 2009. Four of the discharges from this reclaimed facility are located in Subwatershed 0601, but were **not** included in the determination of the Waste Load Allocation. After incorporating the portion of this facility discharging to Subwatershed 0601 into the TMDL spreadsheet the result was within the Margin of Safety for the TMDL.

This permit action is a renewal application of a previously authorized facility and reflects no changes in the character of the wastewater discharges. The applicant has submitted the required alternatives analysis, but is not subject to a determination of social or economic necessity. Appolo Fuels has conducted biological monitoring in Valley Creek watershed since 2004. The biological reports are on file at the Knoxville Environmental Field Office, 3711 Middlebrook Pike, Knoxville, Tennessee 37921.

Therefore, according to the information available to the Division, Spruce Lick Branch, Valley Creek, Straight Creek, and their named and unnamed tributaries meet the specifications described at *Chapter 1200-4-3-.06(3)* for the classification of available conditions.

XIV. PUBLIC PARTICIPATON OPPORTUNITIES

Applicant and Existing Permittee Responsibilities

Applicants for new NPDES permits to discharge and existing permittees who wish to modify permits by expanding discharges shall notify the public of the application by posting a sign near the point of entrance to the facility and within view of a public road. Expanded discharges include new treatment and monitoring points, additional acreage and major changes to the treatment system affecting the volume and quantity of the discharge.

The sign shall be such size that is legible from the public road. The sign must be maintained for at least thirty (30) days following submittal of the application to the Division. The sign posting for new and expanded discharge is a requirement of *Rule 1200-4-5-.06 of the Department of Environment and Conservation.*

How to Comment

Comments may be submitted until the expiration date listed on the Division's public notice announcing the proposed permit activity.

State of Tennessee
Department of Environment and Conservation
Division of Water Pollution Control
2700 Middlebrook Pike, Suite 220
Knoxville, Tennessee 37921-5602
Telephone (865) 594-6035 Fax (865) 594-6105
Attn: Public Notice Coordinator
E-Mail Gary.Mullins@state.tn.us

How to Request a Public Hearing

Interested persons may request in writing that the Director of the Division of Water Pollution Control hold a public hearing on any application. The request must be filed within the comment period and must indicate the interest of the party filing it and the reasons why such a hearing is warranted. When there is significant public interest for a hearing, a hearing will be conducted according to *Rule 1200-4-5-.06 (12)* of the Division of Water Pollution Control. Public hearings will be announced through another public notice.

How the Department will Proceed

The Director of the Division of Water Pollution Control will determine the final permit action after considering comments submitted during the comment period, the hearing record, if any, and the requirements of the Federal and State acts and regulations.

To Obtain Application Details and Additional Information

Copies of this application, draft permit, and supporting documentation are in the permit files maintained at the above address. This file is available for public inspection during normal visiting hours by contacting Tina.E.Jones@state.tn.us or calling (865) 594-5616.

XV. PERMIT DURATION

The proposed limitations meet the requirements of *Section 301(b)(2)(A), (C), (D), (E), and (F) of the Clean Water Act* as amended. The permit will be issued for a five (5) year term.

303(d) Permitting Checklist

1. Indicate the status of this discharge. ☒ Existing ☐ New ☐ Recommencing

2. Indicate the NPDES permit number, if assigned. TN0072044

3. List the stream name and discharge point in stream miles. Valley Creek - 002, 003 stream mile 4.0
   Spruce Lick Branch - 001 stream mile 1.8 Straight Creek - 004 and 006 stream mile 5.8

4. List the HUC and watershed name. 05130101 Upper Cumberland

5. Is the receiving stream on the State of Tennessee's 303(d) list? ☐ Yes ☒ No

If the answer to 5 above is "no", then stop. Sign and date the bottom of the form. Route to the NPDES permit file and/or the Planning limits file.

6. List the known causes of impairment. _____

7. Does this discharge represent an increase in pollutants that have been listed in 5 above? ☐ Yes ☐ No

If the answer to 7 above is "no", complete number 8 below. Then sign and date the bottom of the form. Route to the NPDES permit file. If the answer to 7 above is "yes", go on to number 9 below.

8. Explain why the proposed discharge is not expected to cause an increase in the pollutants listed in 5 above.

_____

9. Identify the source of the information in 8 above (i.e. permit file, application, literature).

_____

10. If oxygen-demanding substances are involved, does D.O. modeling indicate further degradation?
    ☐ Yes ☐ No ☐ N/A Attach modeling results, if applicable.

11. If nutrients are involved, is effluent data available? ☐ Yes ☐ No ☐ N/A Attach data, if applicable.

12. If effluent nutrient data is not available, indicate the expected effluent concentrations and the source of that information (i.e. data from similar facilities, literature).

13. If metals or toxics are involved, does the WLA calculation indicate a measurable instream increase? (Use the RDLs from the Water Quality Standards to determine)
☐ Yes ☐ No ☐ N/A Attach the WLA calculation,if applicable.

14. For each parameter identified in 10, indicate and justify the permit condition(limit, compliance schedule, monitoring, TMDL, etc.) selected. Use additional sheets as necessary

PARAMETER	PERMIT CONDITION	RATIONALE

15. Signature of person completing this form: _____ Date: 10/13/09

16. Signature of reviewer: _____ Date: 10/13/09

WATER QUALITY BASED EFFLUENT CALCULATIONS

FACILITY : APPOLO FUELS, INC.
PERMIT # TN0072044
OUTFALL # 001

Is the receiving stream designated for use as domestic water supply? Type 1 for yes/2 for no. 2

Stream (7Q10) [MGD]	Stream (30Q2) [MGD]	Waste Flow [MGD]	Tll. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
0.000	0.000	0.004	10	400	100

2004 General Water Quality Criteria
non-regulated receiving water

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Stream background concent.	Fish & Aquatic Life (F & AL) WQC @ lab conditions (Diss)		Fraction dissolved	F & AL instream allowable ambient conditions (Total)		Calc. effluent concentration based on F & AL		WQC for the protection of human health (30Q2)						Theoretical Water Quality Based Effluent Limit		Applicant-Supplied Effluent Data
									In-Stream Criteria			Calc. Effluent Concentration					
		Chronic	Acute		Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	Chronic	Acute	
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Antimony		N/A	N/A	1	N/A	N/A	N/A	N/A	640	5.6	6	**640**	**5.6**	**6**	**640.0**	**1280**	<
Arsenic		150	340	1	150	340	150	340	10	10	10	**10**	**10**	**10**	**10**	**20**	<
Beryllium		N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	4	**N/A**	**N/A**	**4**	**N/A**	**N/A**	<
Cadmium, (a,b)		0.643	7.736	0.252	2.547	30.638	2.547	30.638	N/A	N/A	5	**N/A**	**N/A**	**5**	**2.547**	**30.638**	<
Chromium (d)		100	N/A	1	100	N/A	100	N/A	N/A	N/A	100	**N/A**	**N/A**	**100**	**100**	**N/A**	
Copper, (a,b)		29.279	49.617	0.348	84.233	142.742	84.233	142.742	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**84.233**	**142.742**	<
Lead, (a,b)		10.944	280.846	0.184	59.511	1527.159	59.511	1527.159	N/A	N/A	5	**N/A**	**N/A**	**5**	**59.511**	**1527.159**	<
Mercury (c)		0.77	1.4	0.320	0.77	4.4	0.77	4.4	0.051	0.05	2	**0.051**	**0.05**	**2**	**0.051**	**0.102**	0.001
Nickel, (a,b)		168.035	1512.890	0.432	388.682	3499.458	388.682	3499.458	4600	610	100	**4600**	**610**	**100**	**388.682**	**3499.458**	45.0
Selenium		5	20	1	5	20	5	20	N/A	N/A	50	**N/A**	**N/A**	**50**	**5**	**20**	<
Silver, (a,b)		N/A	34.91	1	N/A	34.91	N/A	34.91	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**N/A**	**34.91**	<
Thallium		N/A	N/A	1	N/A	N/A	N/A	N/A	6.3	1.7	2	**6.3**	**1.7**	**2**	**6.3**	**12.6**	<
Zinc, (a,b)		382.401	379.298	0.268	1327.829	1317.056	1327.829	1317.056	N/A	N/A	N/A	**N/A**	**N/A**	**N/A**	**1327.829**	**1317.056**	33.0
Cyanide (d)		5.2	22	1	5.2	22	5.2	22	220000	700	200	**220000**	**700**	**200**	**5.2**	**22**	<
Phenols (d)		N/A	N/A	1	N/A	N/A	N/A	N/A	1700000	21000	N/A	**1700000**	**21000**	**N/A**	**1700000**	**3400000**	<

a Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.

b The criteria for this metal is in the dissolved form at lab conditions. The calculated effluent concentration is in the total recoverable form.

c The chronic criteria for mercury is not converted to dissolved, since it is based on fish tissue data rather than toxicity.

d The criteria for this parameter is in the total form.

WATER QUALITY BASED EFFLUENT CALCULATIONS

FACILITY : APPOLO FUELS, INC.
PERMIT # TN0072044
OUTFALL # 002

Is the receiving stream designated for use as domestic water supply? Type 1 for yes/2 for no. 2

Stream (7Q10) [MGD]	Stream (30Q2) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
0.000	0.000	0.005	10	280	100

2004 General Water Quality Criteria
non-regulated receiving water

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Stream background concent.	Fish & Aquatic Life (F & AL) WQC @ lab conditions (Diss)		Fraction dissolved	F & AL instream allowable ambient conditions (Total)		Calc. effluent concentration based on F & AL		WQC for the protection of human health (30Q2)						Theoretical Water Quality Based Effluent Limit		Applicant-Supplied Effluent Data
									In-Stream Criteria			Calc. Effluent Concentration					
		Chronic	Acute		Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	Chronic	Acute	
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Antimony		N/A	N/A	1	N/A	N/A	N/A	N/A	640	5.6	6	640	5.6	6	640.0	1280	<
Arsenic		150	340	1	150	340	150	340	10	10	10	10	10	10	10	20	<
Beryllium		N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	4	N/A	N/A	<
Cadmium, (a,b)		0.503	5.474	0.252	1.990	21.679	1.990	21.679	N/A	N/A	5	N/A	N/A	5	1.990	21.679	<
Chromium (d)		100	N/A	1	100	N/A	100	N/A	N/A	N/A	100	N/A	N/A	100	100	N/A	
Copper, (a,b)		21.587	35.455	0.348	62.104	102.001	62.104	102.001	N/A	N/A	N/A	N/A	N/A	N/A	62.104	102.001	5.0
Lead, (a,b)		7.563	194.090	0.184	41.127	1055.401	41.127	1055.401	N/A	N/A	5	N/A	N/A	5	41.127	1055.401	<
Mercury (c)		0.77	1.4	0.320	0.77	4.4	0.77	4.4	0.051	0.05	2	0.051	0.05	2	0.051	0.102	0.002
Nickel, (a,b)		124.266	1118.820	0.432	287.440	2587.937	287.440	2587.937	4600	610	100	4600	610	100	287.440	2587.937	37.0
Selenium		5	20	1	5	20	5	20	N/A	N/A	50	N/A	N/A	50	5	20	<
Silver, (a,b)		N/A	18.90	1	N/A	18.90	N/A	18.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.90	<
Thallium		N/A	N/A	1	N/A	N/A	N/A	N/A	6.3	1.7	2	6.3	1.7	2	6.3	12.6	<
Zinc, (a,b)		282.664	280.370	0.288	981.508	973.544	981.508	973.544	N/A	N/A	N/A	N/A	N/A	N/A	981.508	973.544	42.0
Cyanide (d)		5.2	22	1	5.2	22	5.2	22	220000	700	200	220000	700	200	5.2	22	<
Phenols (d)		N/A	N/A	1	N/A	N/A	N/A	N/A	1700000	21000	N/A	1700000	21000	N/A	1700000	3400000	<

a Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.

b The criteria for this metal is in the dissolved form at lab conditions. The calculated effluent concentration is in the total recoverable form.

c The chronic criteria for mercury is not converted to dissolved, since it is based on fish tissue data rather than toxicity.

d The criteria for this parameter is in the total form.

WATER QUALITY BASED EFFLUENT CALCULATIONS

FACILITY : APPOLO FUELS, INC.
PERMIT # TN0072044
OUTFALL # 003

Is the receiving stream designated for use as domestic water supply? Type 1 for yes/2 for no. **2**

Stream (7Q10) [MGD]	Stream (30Q2) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
0.000	0.000	0.004	10	280	100

2004 General Water Quality Criteria
non-regulated receiving water

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Stream background concent.	Fish & Aquatic Life (F & AL) WQC @ lab conditions (Diss)		Fraction dissolved	F & AL instream allowable ambient conditions (Total)		Calc. effluent concentration based on F & AL		WQC for the protection of human health (30Q2)						Theoretical Water Quality Based Effluent Limit		Applicant-Supplied Effluent Data
									In-Stream Criteria			Calc. Effluent Concentration					
		Chronic	Acute		Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	Chronic	Acute	
PARAMETER	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Antimony		N/A	N/A	1	N/A	N/A	N/A	N/A	640	5.6	6	640	5.6	6	640.0	1280	<
Arsenic		150	340	1	150	340	150	340	10	10	10	10	10	10	10	20	<
Beryllium		N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	4	N/A	N/A	<
Cadmium, (a,b)		0.503	5.474	0.252	1.990	21.679	1.990	21.679	N/A	N/A	5	N/A	N/A	5	1.990	21.679	<
Chromium (d)		100	N/A	1	100	N/A	100	N/A	N/A	N/A	100	N/A	N/A	100	100	N/A	
Copper, (a,b)		21.587	35.455	0.348	62.104	102.001	62.104	102.001	N/A	N/A	N/A	N/A	N/A	N/A	62.104	102.001	3.0
Lead, (a,b)		7.563	194.090	0.184	41.127	1055.401	41.127	1055.401	N/A	N/A	5	N/A	N/A	5	41.127	1055.401	<
Mercury (c)		0.77	1.4	0.320	0.77	4.4	0.77	4.4	0.051	0.05	2	0.051	0.05	2	0.051	0.102	0.003
Nickel, (a,b)		124.266	1118.820	0.432	287.440	2587.937	287.440	2587.937	4600	610	100	4600	610	100	287.440	2587.937	4.0
Selenium		5	20	1	5	20	5	20	N/A	N/A	50	N/A	N/A	50	5	20	<
Silver, (a,b)		N/A	18.90	1	N/A	18.90	N/A	18.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.90	<
Thallium		N/A	N/A	1	N/A	N/A	N/A	N/A	6.3	1.7	2	6.3	1.7	2	6.3	12.6	<
Zinc, (a,b)		282.664	280.370	0.288	981.508	973.544	981.508	973.544	N/A	N/A	N/A	N/A	N/A	N/A	981.508	973.544	6.0
Cyanide (d)		5.2	22	1	5.2	22	5.2	22	220000	700	200	220000	700	200	5.2	22	<
Phenols (d)		N/A	N/A	1	N/A	N/A	N/A	N/A	1700000	21000	N/A	1700000	21000	N/A	1700000	3400000	<

a Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.

b The criteria for this metal is in the dissolved form at lab conditions. The calculated effluent concentration is in the total recoverable form.

c The chronic criteria for mercury is not converted to dissolved, since it is based on fish tissue data rather than toxicity.

d The criteria for this parameter is in the total form.

WATER QUALITY BASED EFFLUENT CALCULATIONS

FACILITY : APPOLO FUELS, INC.
PERMIT # TN0072044
OUTFALL # 004

Is the receiving stream designated for use as domestic water supply? Type 1 for yes/2 for no. 2

Stream (7Q10) [MGD]	Stream (30Q2) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
0.000	0.000	0.001	10	400	100

2004 General Water Quality Criteria
non-regulated receiving water

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Stream background concent.	Fish & Aquatic Life (F & AL) WQC @ lab conditions (Diss)		Fraction dissolved	F & AL instream allowable ambient conditions (Total)		Calc. effluent concentration based on F & AL		WQC for the protection of human health (30Q2)						Theoretical Water Quality Based Effluent Limit		Applicant-Supplied Effluent Data
									In-Stream Criteria			Calc. Effluent Concentration					
PARAMETER		Chronic	Acute		Chronic	Acute	Chronic	Acute	Organisms	Water/Organisms	DWS	Organisms	Water/Organisms	DWS	Chronic	Acute	
	[ug/l]	[ug/l]	[ug/l]	[Fraction]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]	[ug/l]
Antimony		N/A	N/A	1	N/A	N/A	N/A	N/A	640	5.6	6	640	5.6	6	640.0	1280	<
Arsenic		150	340	1	150	340	150	340	10	10	10	10	10	10	10	20	<
Beryllium		N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	4	N/A	N/A	<
Cadmium, (a,b)		0.643	7.736	0.252	2.547	30.638	2.547	30.638	N/A	N/A	5	N/A	N/A	5	2.547	30.638	<
Chromium (d)		100	N/A	1	100	N/A	100	N/A	N/A	N/A	100	N/A	N/A	100	100	N/A	
Copper, (a,b)		29.279	49.617	0.348	84.233	142.742	84.233	142.742	N/A	N/A	N/A	N/A	N/A	N/A	84.233	142.742	4.0
Lead, (a,b)		10.944	280.846	0.184	59.511	1527.159	59.511	1527.159	N/A	N/A	5	N/A	N/A	5	59.511	1527.159	<
Mercury (c)		0.77	1.4	0.320	0.77	4.4	0.77	4.4	0.051	0.05	2	0.051	0.05	2	0.051	0.102	0.002
Nickel, (a,b)		168.035	1512.890	0.432	388.682	3499.458	388.682	3499.458	4600	610	100	4600	610	100	388.682	3499.458	<
Selenium		5	20	1	5	20	5	20	N/A	N/A	50	N/A	N/A	50	5	20	2.0
Silver, (a,b)		N/A	34.91	1	N/A	34.91	N/A	34.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	34.91	<
Thallium		N/A	N/A	1	N/A	N/A	N/A	N/A	6.3	1.7	2	6.3	1.7	2	6.3	12.6	<
Zinc, (a,b)		362.401	379.298	0.288	1327.829	1317.056	1327.829	1317.056	N/A	N/A	N/A	N/A	N/A	N/A	1327.829	1317.056	6.0
Cyanide (d)		5.2	22	1	5.2	22	5.2	22	220000	700	200	220000	700	200	5.2	22	<
Phenols (d)		N/A	N/A	1	N/A	N/A	N/A	N/A	1700000	21000	N/A	1700000	21000	N/A	1700000	3400000	<

a Denotes metals for which Fish & Aquatic Life Criteria are expressed as a function of total hardness.

b The criteria for this metal is in the dissolved form at lab conditions. The calculated effluent concentration is in the total recoverable form.

c The chronic criteria for mercury is not converted to dissolved, since it is based on fish tissue data rather than toxicity.

d The criteria for this parameter is in the total form.